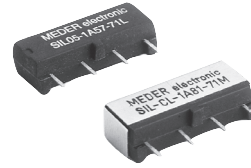


DESCRIPTION

Single-In-Line Reed Relays reduce the required space to a minimum. The SIL series is available as both voltage and current driven (line sense) Reed Relays. Requiring only half the PCB area of the DIP or DIL series, the SIL relays offer all the advantages of Reed Technology. The SIL series is approved according to EN60950 and offers sufficient distance in air and creepage paths.



FEATURES

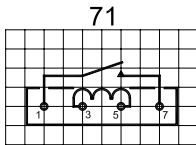
- **NEW** Breakdown voltage of 4200 VDC
- Magnetic shield available
- High resistance version
- Other coil resistances available
- Form B available

CHARACTERISTICS

- Approved according to EN60950
- High resistance coils of up to 2000 Ω at 12 VDC
- Line sense relay with pull-in current = 15 mA
- Breakdown voltage coil / contact of up to 4.25 kVDC

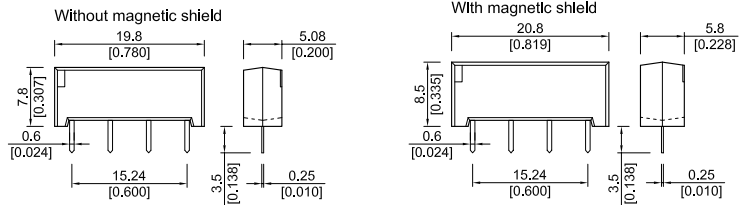
PIN OUT

View from top of component
2.54mm [0.10"] pitch grid



DIMENSIONS

All dimensions in mm [inches]



ORDER INFORMATION

Part Number Example

SIL12 - 1A72 - 71L

12 is the nominal voltage
1A is the contact form
72 is the switch model
L is the option

OPTIONS

- L = No option
- M = With magnetic shield
- D = With diode and no magnetic shield
- Q = With diode and with magnetic shield

| RELAY SERIES | NOMINAL VOLTAGE | CONTACT FORM | SWITCH MODEL | PIN OUT | OPTIONS | HIGH RESISTANCE VERSION |
|-----------------|-----------------|--------------|----------------|-----------|------------|-------------------------|
| SIL | XX - | 1X | XX - | 71 | X | XX |
| OPTIONS | 05, 12, 15, 24* | A ** | 31, 72, 75, 84 | | L, M, D, Q | |
| | 05, 12 | 1A | 81 | | L, M | HR |
| SIL-CL - | NA | 1A | 81 - | 71 | M | NA |

* Other coil resistances available. Please consult factory.

** Form B available.

Single-In-Line Reed Relays

RELAY DATA

| All data at 20 °C | Switch Model --> Contact Form --> | Switch 31 Form A | | | Switch 72 Form A | | | Switch 75 Form A | | | |
|---|---|--------------------------------------|------------------|------|--------------------------------------|------------------|------|--------------------------------------|------------------|------|---------------------------|
| Contact Ratings | Conditions | Min. | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | Max. | Units |
| Switching Power | Any DC combination of V & A not to exceed their individual max.'s | | | 50 | | | 20 | | | 10 | W |
| Switching Voltage | DC or peak AC | | | 1000 | | | 200 | | | 1000 | V |
| Switching Current | DC or peak AC | | | 2.0 | | | 1.0 | | | 0.5 | A |
| Carry Current | DC or peak AC | | | 3.0 | | | 1.25 | | | 1.0 | A |
| Static Contact Resistance | w/ 0.5V & 50mA | | | 80 | | | 150 | | | 200 | mΩ |
| Dynamic Contact Resistance | Measured w/ 0.5V & 50mA 1.5 ms after closure | | | 150 | | | 200 | | | 200 | mΩ |
| Insulation Resistance (100 Volts applied) | Across contacts Contact to coil | 10 ¹⁰ 10 ¹² | 10 ¹³ | | 10 ¹² 10 ¹² | 10 ¹³ | | 10 ¹⁰ 10 ¹² | 10 ¹³ | | Ω |
| Breakdown Voltage | Across contacts Contact to coil | 1500 4200 | | | 320 4200 | | | 1000* 4200 | | | VDC |
| Operate Time, incl. Bounce | Measured w/ 100% overdrive | | | 1.2 | | | 0.5 | | | 0.5 | ms |
| Reset Time | Measured w/ no coil suppression | | | 1.0 | | | 0.1 | | | 0.1 | ms |
| Capacitance | Across contacts Contact to coil | | 0.4 2.0 | | | 0.2 2.0 | | | 0.4 2.0 | | pF |
| Life Expectancies | | | | | | | | | | | |
| Switching 5 Volts@ 10mA | DC only & <10 pF stray cap. | | 500 | | | 1000 | | | 500 | | 10 ⁶ Cycles |
| For other load requirements please see our life test section located on page 151. | | | | | | | | | | | |
| Environmental Data | | | | | | | | | | | |
| Shock Resistance | 1/2 sine wave duration 11ms | | | 50 | | | 50 | | | 50 | g |
| Vibration Resistance | From 10 - 2000 Hz | | | 20 | | | 20 | | | 20 | g |
| Ambient Temperature | 10 °C/ minute max. allowable | -20 | | 70 | -20 | | 70 | -20 | | 70 | °C |
| Storage Temperature | 10 °C/ minute max. allowable | -35 | | 95 | -35 | | 95 | -35 | | 95 | °C |
| Soldering Temperature | 5 sec dwell | | | 260 | | | 260 | | | 260 | °C |
| * For higher voltage requirements please consult factory. | | | | | | | | | | | |

RELAY DATA

| All data at 20 °C | Switch Model --> Contact Form --> | Switch 81 Form A | | | Switch 8 Form A | | | Units |
|---|---|-------------------------------------|------------------|------|--------------------------------------|------------------|------|---------------------------|
| | | Min. | Typ. | Max. | Min. | Typ. | Max. | |
| Contact Ratings | Conditions | | | | | | | |
| Switching Power | Any DC combination of V & A not to exceed their individual max.'s | | | 5 | | | 10 | W |
| Switching Voltage | DC or peak AC | | | 90 | | | 400 | V |
| Switching Current | DC or peak AC | | | 0.5 | | | 0.5 | A |
| Carry Current | DC or peak AC | | | 1.0 | | | 1.0 | A |
| Static Contact Resistance | w/ 0.5V & 50mA | | | 200 | | | 150 | mΩ |
| Dynamic Contact Resistance | Measured w/ 0.5V & 50mA 1.5 ms after closure | | | 200 | | | 200 | mΩ |
| Insulation Resistance (100 Volts applied) | Across contacts Contact to coil | 10 ⁹ 10 ¹² | 10 ¹³ | | 10 ¹¹ 10 ¹² | 10 ¹³ | | Ω |
| Breakdown Voltage | Across contacts Contact to coil | 100 4200 | | | 700 4200 | | | VDC |
| Operate Time, incl. Bounce | Measured w/ 100% overdrive | | | 0.5 | | | 2.0 | ms |
| Reset Time | Measured w/ no coil suppression | | | 0.1 | | | 0.1 | ms |
| Capacitance | Across contacts Contact to coil | | 0.4 2.0 | | | 0.7 2.0 | | pF |
| Life Expectancies | | | | | | | | |
| Switching 5 Volts@ 10mA | DC only & <10 pF stray cap. | | 100 | | | 200 | | 10 ⁶ Cycles |
| For other load requirements please see our life test section located on page 151. | | | | | | | | |
| Environmental Data | | | | | | | | |
| Shock Resistance | 1/2 sine wave duration 11ms | | | 50 | | | 50 | g |
| Vibration Resistance | From 10 - 2000 Hz | | | 20 | | | 20 | g |
| Ambient Temperature | 10 °C/ minute max. allowable | -20 | | 70 | -20 | | 70 | °C |
| Storage Temperature | 10 °C/ minute max. allowable | -35 | | 95 | -35 | | 95 | °C |
| Soldering Temperature | 5 sec dwell | | | 260 | | | 260 | °C |

Single-In-Line Reed Relays

COIL DATA

| CONTACT FORM | SWITCH MODEL | COIL VOLTAGE | | COIL RESISTANCE | | | PULL-IN VOLTAGE | | DROP-OUT VOLTAGE | | NOMINAL COIL POWER | |
|---------------------|---|--------------|------|-----------------|--------------|--------------|-----------------|--|------------------|------|--------------------|--|
| All data at 20 °C * | | VDC | | Ω | | | VDC | | VDC | | mW | |
| | | Nom. | Max. | Min. | Typ. | Max. | Min. | Max. | Min. | Max. | Typ. | |
| 1A | 31 | 5 | 7.5 | 72 | 80 | 88 | 0.76 | 3.5 | 0.75 | 3.4 | 310 | |
| | | 12 | 16 | 290 | 320 | 350 | 1.9 | 8.4 | 1.8 | 8.3 | 450 | |
| | | 24 | 30 | 1170 | 1300 | 1430 | 3.7 | 16.8 | 3.6 | 16.7 | 440 | |
| | 72 75 8 | 5 | 7.5 | 450 (180)** | 500 (200) | 550 (220) | 0.76 | 3.5 | 0.75 | 3.4 | 50 (125) | |
| | | 12 | 16 | 900 | 1000 | 1100 | 1.9 | 8.4 | 1.8 | 8.3 | 145 | |
| | | 15 | 7.5 | 1800 | 2000 | 2200 | 2.3 | 10.5 | 2.2 | 10.4 | 110 | |
| | | 24 | 30 | 1800 | 2000 | 2200 | 3.7 | 16.8 | 3.6 | 16.7 | 290 | |
| | 81 | 5 HR | 7.5 | 900 | 1000 | 1100 | 0.76 | 3.5 | .75 | 3.4 | 25 | |
| | | 12 HR | 16 | 1800 | 2000 | 2200 | 1.9 | 8.4 | 1.8 | 8.3 | 70 | |
| | * The pull-in / drop-out voltages and coil resistance will change at the rate of 0.4% per °C. | | | | | | | **Data in () are valid for switch model 31, 75, and 84 | | | | |

SIL-CL LINE SENSE RELAY COIL DATA

| CONTACT FORM | SWITCH MODEL | COIL RESISTANCE | | | PULL-IN CURRENT | | DROP-OUT CURRENT | | INDUCTANCE AT 1 kHz | | |
|---|--------------|-----------------|------|------|-----------------|------|------------------|------|---------------------|------|------|
| All data at 20 °C * | | Ω | | | mA | | mA | | mH | | |
| | | Min. | Typ. | Max. | Min. | Max. | Min. | Max. | Min. | Typ. | Max. |
| 1A | 81 | 13.5 | 15 | 18 | 5.1 | 15 | 5 | 14.9 | 2.76 | 3.45 | 4.14 |
| * The pull-in / drop-out currents and coil resistance will change at the rate of 0.4% per °C. | | | | | | | | | | | |